

Remarks

The Applicant submits the foregoing amendments and the ensuing remarks in reply to the Detailed Action mailed October 24, 2007. For the reasons summarized herein, the Applicant respectfully asserts that the finality of the Detailed Action was premature and that the claims are directed to patentably nonobvious invention such that they are allowable in all respects. The Office's favorable reconsideration of the claims is requested.

Claim Rejections - 35 U.S.C § 103

In the Action, the Office repeated many of its earlier rejections notwithstanding Applicant's claim amendments and arguments. More particularly, the Office again wrote that claims 1-9, 26-35, 37, 41-44, 47, 49, 50, 53-56, and 62 were unpatentable over U.S. Patent No. 6,042,487 to Schrimmer et al. in view of U.S. Patent No. 5,066,011 to Dykstra et al. Claims 10-14, 44-46, 51, and 52 were rejected as unpatentable over Schrimmer et al. and Dykstra et al. when combined with U.S. Patent Application Publication No. 2005/00055873 of Gick and United States Patent Application Publication No. 2002/0173378 of Tinsman. Still further, claims 15-21, 48, and 57-59 were rejected as unpatentable in light of the combined references of Schrimmer et al., Dykstra et al., Tinsman, and U.S. Patent No. 3,426,121 to Faulkner. As before, claims 22-25, 38-40, 60, and 61 were rejected as obvious in light of Schrimmer and Dykstra et al. when combined with U.S. Patent No. 3,426,121 to Cavallaro et al. and U.S. Patent No. 4,463,951 to Kumasaka et al. For the reasons discussed below, it is respectfully submitted that allowance of all pending claims is warranted.

Independent Claims 1 and 47

Based on the continued rejections founded on Schrimmer et al. and Dykstra et al., it appears that the Office misunderstood what the Applicant was seeking to claim in claims 1 and 47. While the Applicant submits that the claims were clear in this regard as previously written, the Applicant has amended claim 1 to make it more explicit that the claimed game ball has a “spherical casing” that is “concentrically disposed *to envelop* the spherical member of the core structure”. (Emphasis supplied.) Even should the Office continue in its rejections, which the Applicant submits would be error, it is requested that the amendment be entered since it will place the claim in better consideration for appeal. Method claim 47 already provided for the step of “forming a spherical casing to envelop the spherical member of the core structure in a concentric relationship”.

In each of claims 1 and 47, therefore, it is clear that the claimed “surface deviation” on the outer surface of the spherical member and the “corresponding surface deviation” on the inner surface of the spherical casing face one another *within the inner volume of the game ball*. Neither surface deviation would be exposed to the outer surface of the claimed game ball. This is directly contrary to the “dimples 44” and the remaining outer surface of the “outer shell” in U.S. Patent No. 6,042,487 to Schrimmer et al.

From the Detailed Action, it is apparent that the Office interpreted Applicant’s claim limitations as specifying surface deviations to the outside surface of the game ball. For example, on page 3 of the Action, the Office wrote that it would have been obvious to combine U.S. Patent No. 5,066,011 to Dykstra et al. and Schrimmer “to include dimples ... to provide a ball with a specific aerodynamic to the ball and also to invent a ball that looks and feels very similar to the common and already known types of balls” It is most respectfully submitted that this logic is simply incorrect. Since Applicant’s claimed surface deviations are entirely *interior* to the game ball, they have no effect on the aerodynamics or the appearance of the ball, and such factors are irrelevant to their purpose.

Instead, the claimed surface deviations and corresponding surface deviations are disposed in a facing, mating relationship between the *spherical* member and *spherical* casing within the game ball to prevent relative movement between the spherical member and the spherical casing. Schrimmer’s dimples on the outside surface of the ball would teach one skilled in the art nothing

with respect to Applicant's claimed surface deviation arrangement.

In the Detailed Action's "Response to Arguments", it was written, "[i]n response to applicant's argument regarding claims 1 and 47 that Schrimmer teaches a disc and not a spherical member, the examines [sic] points out that Schrimmer discloses an illuminated golf ball, and golf balls are well known to be spherical and not a disc as argued by the applicant." Detailed Action, p. 13. Again, the Office has apparently mistaken what is being claimed and argued. In discussing Schrimmer, the Applicant was not asserting that the ball in Schrimmer had a disk shape; its outer surface is undeniably spherical. Instead, the Applicant correctly noted that the "core portion 34"—the portion housed within the "shell portion 40"—in Schrimmer is disk shaped as can be plainly seen in the perspective view of FIG. 1. This is in direct opposition to the claimed spherical member that forms Applicant's core structure. Indeed, by teaching a disk-shaped core portion, Schrimmer teaches away from the claimed game ball with a core structure "comprising a spherical member". As previously noted, the difference is more than one merely of form since a game ball with Schrimmer's disk shaped "core portion 34" would perform differently than a game ball with Applicant's claimed "spherical member" core structure.

Therefore, it is most respectfully submitted that the Office's rejection of independent claims 1 and 47 and the claims depending therefrom was founded on an apparent misunderstanding of Applicant's claim limitations. Neither Schrimmer, Dykstra, nor any combination thereof would render obvious providing surface deviations on an outer surface of an enveloped spherical member and mating surface deviations on an inner surface of a spherical casing for maintaining the member and the casing in relative position. Accordingly, it is respectfully submitted that claims 1 and 47 must be considered patentable over the cited art. Put simply, the Office's rejection of claims 1 and

47 is ill founded and would be unsupportable on appeal. It is also submitted that, because the claims and the prior art were misunderstood and misapplied, the finality of the Office Action was premature. Accordingly, the Applicant respectfully requests that the Office reconsider and allow claims 1, 47, and those that depend therefrom and that the Office retract the final rejection of the claims.

Independent Claim 33

The rejection of independent claim 33 is equally without proper basis. In the Action, the Office makes the conclusory statements that Schrimmer's "elongate probe can be employed to provide power to the switching arrangement from exterior to the high impact game ball (figs. 1-3)" and that "the switching arrangement further comprises a rechargeable means for retaining power whereby the elongate probe can be employed to recharge the means for retaining power (see figs. 1-3, lines 14-49)." However, the Office fails to provide articulated reasoning for how the elongate probe in Schrimmer can possibly be employed to provide or transmit power.

As emphasized in the Office's "Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*"¹, a proper rejection under 35 U.S.C. 103 must have a "clear articulation of the reason(s) why the claimed invention would have been obvious." *Id.* at 57528. Mere conclusory statements cannot properly support an obviousness rejection, which must instead be founded on "'articulated reasoning with some rational underpinning'". *Id.* at 57528-9².

¹ Federal Register, Vol. 72, No. 195, p. 57526-57535, October 10, 2007.

² *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 127 S. Ct. 1727 (2007) (citing *In re Kahn*, 441 F.3d 977, 988,

Not only does Schrimmer not teach “a means for passing power through the elongate probe whereby the elongate probe can be employed to provide power to the switching arrangement from exterior to the high impact game ball” as is claimed by the Applicant, Schrimmer actually provides affirmative evidence that the Office’s position is incorrect. Schrimmer unequivocally proves that the Office’s position is untenable where it is written that one can “turn off or deenergize the LEDs 14, 16” by inserting “the **non-conductive plunger 36**” into the “opening 42 in the outer shell 40”. Col, 5, lines 44-47. (Emphasis supplied.) A non-conductive plunger by definition cannot transmit power. Indeed, As such, the plunger 36 *could not possibly* be employed to provide power to the switching arrangement from exterior to the ball as claim 33 demands.

Since the rejection of claim 33 is not well founded and could not be supported on appeal, the Applicant urges the Office to reconsider its rejection and allow claim 33 and each claim depending therefrom.

Applicant’s Dependent Claims

The Applicant submits that each dependent claim is allowable not only because depends from an allowable base claim but also because each dependent claim adds further patentable limitation thereto. By way of example and not limitation, a plurality of notable dependent claims are discussed below.

- **Claims 25 and 40**

In the Office’s Response to Applicant’s Arguments respecting claims 25 and 40, the Office

admits that Kumasaka “does not teach an aerogel” but asserts that Kumasaka’s teaching of foam being used in the production of a ball renders Applicant’s claims 25 and 40 obvious since “according to the description and definition of an aerogel, it is a type of foam that is clear, solid, and lightweight.” Detailed Action, p. 13. It seems to be the Office’s position, therefore, that Kumasaka’s disclosure of foam as a genus automatically renders the very particular and uniquely advantageous aerogel obvious.

The Office’s rejection is founded on aerogel being properly classified as a foam. However, Merriam-Webster’s Online Dictionary defines “foam” as “material in a lightweight cellular form resulting from introduction of gas bubbles during manufacture”. As defined in the American Heritage Dictionary, an “aerogel” is a “highly porous solid formed from a gel, such as silica gel, in which the liquid is replaced with a gas.” As such, with each term properly defined, an aerogel is not a foam. With that, the rejection of claims 25 and 40 is improper.

Even assuming, *arguendo*, that aerogel is a species of foam, the Office’s rejection is improper. As noted in MPEP § 2144.08, “[t]he fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness.” (citing *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994)). To be proper, a rejection of a species where a genus is disclosed by the prior art demands express findings and consideration of (a) the size of the genus, (b) the express teachings of the prior art, (c) the teachings of structural similarity, (d) the teachings of similar properties or uses, (e) the predictability of the technology, and (f) any teachings that would lead one skilled in the art to select the species or subgenus. MPEP § 2144.08.

Here, the Office found aerogel obvious based on the mere disclosure of foam with no supporting analysis. The Office's rejection of claims 25 and 40 is thus insufficient under proper patent practice. Furthermore, it is respectfully submitted that even a complete consideration of the aforementioned factors compels the conclusion that, even assuming the disclosure of foam as a genus, aerogel would not be obvious to one skilled in the art since, among other reasons, there are numerous types of foam, there do not appear to be any teachings of similar uses of aerogel, and there are no other known factors that would lead one skilled in the art to employ aerogel as specifically claimed by the applicant. Therefore, for these further reasons, the Office's rejection of claims 25 and 40 was improper and should be retracted.

- **Claims 26-28**

Regarding claims 26-28, the Office continued its rejections based on the assertion that Schrimmer discloses a luminescent layer because the "light emission according to Schrimmer is not caused by heat but simply by mechanical and electrical energy." Detailed Action, p. 13. This position is unsupportable and contrary to the facts. "Luminescence", as defined by the American Heritage[®] Dictionary of the English Language: Fourth Edition, is "[t]he emission of light that does not derive energy from the temperature of the emitting body, as in phosphorescence, fluorescence, and bioluminescence. Luminescence is caused by chemical, biochemical, or crystallographic changes, the motions of subatomic particles, or radiation-induced excitation of an atomic system." Light in Schrimmer is unequivocally generated by lighting elements comprising "light emitting diodes 14, 16 (LEDs)". Col. 3, lines 59-65. LEDs do not exhibit luminescence but instead emit light through the application of electricity, with heat being conducted from their P-N junction.

Schrimmer has no disclosure whatsoever of luminescence. Therefore, it cannot be used to support a rejection of claims 26-28, which require “a luminescent layer” and then that the layer comprises a sub-layer and an outer layer. With no prior art teaching that could reasonably be said to teach or render obvious Applicant’s claimed luminescent layer, the Applicant respectfully submits that claims 26-28 are independently patentable.

- **Claims 2-5**

Claims 2-4 refine claim 1 in requiring that the at least one surface deviation disposed relative to the spherical member of the core structure “comprises a rigid registration projection”, then that the surface deviation “comprises a rigid post”, and further that there are a plurality of rigid registration projections. Still further, claim 5 requires that each registration projection comprises a “metal post”. Claim 49 also requires a rigid registration projection.

Schrimmer would most accurately be read to teach one skilled in the art away from the claimed “rigid registration projections”. In Schrimmer, the “connectors 22, 24” are expressly and repeatedly described as being “flexible”. Indeed, the flexibility of the “connectors 22, 24” is critical to their performance under Schrimmer’s invention to allow the “connectors 22, 24” to deflect in response to the insertion of the “plunger 36”. Notably, since Schrimmer’s core structure is not spherical as Applicant’s claims demand, Schrimmer would not need rigid registration projections to prevent relative movement of the “core portion 34” and the “outer shell 40”. Schrimmer cannot in fairness be said to render a structure with a plurality of rigid metal posts obvious, particularly in light of the remaining limitations in claims 2-4 directly or by dependency.

- **Claim 8**

Claim 8 requires that “the light source is activated for a pre-determined time period after the impact” and is additionally patentable over even the combined references of Schrimmer and Dykstra.

Since it is switched on and off by the “plunger 36”, it is clear that Schrimmer does not have an impact activated light source. Furthermore, Dykstra merely exhibits only a momentary flash of light and emission of sound. Under Dykstra, in the event of a jolt, “both the flashtube 24 and sound annunciator 26 [are] momentarily (and simultaneously) activated. The net result is that there is a short flash of light as well as a sound.” Col. 2, lines 39-42. To the contrary, claim 8 requires that the light source be activated “for a pre-determined time period *after* the impact”, which is neither taught nor rendered obvious by Schrimmer and Dykstra, even when combined. Dykstra would instead teach one skilled in the art to induce only a simultaneous, momentary light activation, which is contrary to that claimed by the Applicant.

- **Claims 10-14, 45, 46, 51, and 52**

Claims 10 through 14 also enjoy independent patentability. Again pointing specifically to Paragraph 0019 and notwithstanding Applicant’s earlier arguments, the Office found that U.S. Patent Application Publication No. 2005/0005873 of Gick discloses Applicant’s remote activation by disclosing activation with “means for sensing a sound signal / *sound from vibration*” However, this is simply not the case. Gick does not contemplate remote activation signals and merely discloses that the toy can “respond to the slight movement (such as that caused by a gentle push or rocking) or vibration (such as that caused by striking a surface upon which the toy rests or by an animal walking near the toy).” Gick, Para. 0019. Neither of these activations is remote; both require the imparting of movement *directly* to the toy. Gick never teaches or suggests remote activation of

any kind and certainly does not contemplate infrared or sound activation. As such, Gick cannot properly support a rejection of claims 10 through 14. These arguments apply with equal force to claims 45, 46, 51, and 52.

While the Office summarily concluded that Tinsman (U.S. 2002/0173378) discloses Applicant's claimed infrared activation signal of claim 11 and amended claims 45 and 51 and the sound signal activation of claims 12, 46, and 52, there is no such disclosure in the reference. The Applicant's careful review of the Tinsman disclosure shows that infrared activation and sound activation are nowhere disclosed or even suggested. To find otherwise simply represents impermissibly adding teachings to the prior art that do not exist. As noted previously, the Office's Examination Guidelines issued in light of *KSR International Co. v. Teleflex Inc.*, mere conclusory statements without articulated reasoning are insufficient to support an obviousness rejection. The Applicant urges the Office to reconsider its rejections and allow Applicant's claims.

- **Claims 15-17 and 57**

It is further submitted that claims 15-17 and 57 are not anticipated or rendered obvious by even the combined references of Schrimmer, Dykstra, Faulkner, and Tinsman. Tinsman's "sound pipes 40" do not teach or render obvious Applicant's claimed "positioning stays" of claims 15-17 and the method for employing the same of claim 57. There is no disclosure in Tinsman of even how the "sound pipes 40" are formed. Indeed, it would appear from Tinsman's drawings that the sound pipes are mere negative formations in the structure, which could not correspond to or even suggest Applicant's rigid positioning stays. Even more clearly, since Tinsman merely describes the "sound pipes 40" as being used for transmitting sound, it cannot properly be read to teach or suggest

Applicant's carefully claimed *method steps* of claim 57 where the positioning stays are employed to maintain the core structure concentric with the spherical casing. Furthermore, since the Office's rejections were founded on new prior art with no amendments to Applicant's claims, it is again submitted that the finality of the Office's Action was premature.

- **Claims 19-21 and 59**

It does not appear that the Office particularly addressed the patentability of claims 19-21 or 59, which require "a plurality of interior surface deviations disposed on the inner surface of the spherical shell and a plurality of corresponding exterior surface deviations disposed on the outer surface of the spherical casing whereby relative movement between the spherical shell and the spherical casing is prevented." These claims thus require a spherical core member with outer surface deviations, a spherical casing with inner surface deviations and outer surface deviations, and a spherical shell with inner surface deviations. There is simply nothing in the prior art that can reasonably be said to teach or suggest such a claimed ball structure, and the Office has not even attempted to address the same. The same arguments apply to amended claim 59. Therefore, it is submitted that claims 19-21 and 59 enjoy further patentability.

Conclusion

Because the prior art fails to teach or render the claimed invention obvious, the Applicant most respectfully submits that the claims now presented are patentable over the cited art. With this in mind, the Office's reconsideration and allowance of the specification and claims 1-35 and 37-62 are respectfully requested.

The Applicant believes that all issues raised in the Detailed Action have been responded to fully. However, if, after consideration of the above amendments and comments, there remain any open issues in this application that possibly can be resolved by a telephone interview, then the Applicant's undersigned attorney most respectfully requests that he be called to discuss and attempt to resolve those issues.

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Respectfully submitted,

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Date